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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,252	07/06/2003	Dennis R. Sigl	ITW7510.070	1251
33647	7590	07/07/2005	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ITW)			CHERVINSKY, BORIS LEO	
14135 NORTH CEDARBURG ROAD			ART UNIT	
MEQUON, WI 53097			PAPER NUMBER	
			2835	
DATE MAILED: 07/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/604,252	Applicant(s) SIGL ET AL.	
	Examiner Boris L. Chervinsky	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application:  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite because the limitations provided in last four lines of the claim starting from "a space formed..." is grammatically incorrect and cannot positively set forth the structure that might be claimed. The terminology of the disclosure does not coincide with the terminology of the claims, therefore claimed elements could not be always positively matched with the elements disclosed.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 4 are rejected, as best understood, under 35 U.S.C. 103(a) as being unpatentable over Earl et al. in view of Liu

Earl discloses a heat sink 10 for use in cooling an electronic component 30, the heat sink 10 having a body with a flat generally planar portion 13 and two laterally facing exterior portions, a plurality of fins 12 extending outwardly from the body and being

elongated in the direction along the two lateral exterior portions, a cavity between adjacent fins of the plurality of fins, the cavity extending from the body to a tip of the adjacent fins, each of the lateral exterior portions having elongated ridges 14, 16, 18, 20 extending the full length of the lateral exterior portions, the elongated ridges having a bottom edge displaced from the flat generally planar portion 13 in a direction of extension of the two laterally facing exterior portions, a space formed between each of the laterally facing exterior portions and a neighboring fin having a depth less than a depth of the cavity (see Fig. 1 and Fig.2), and the elongated ridges constructed to removably engage a retention means 40 for contacting the heat sink and the component, the heat sink does not have any through holes. Earl discloses the claimed invention except having the retention means to be engaged with a frame. Liu discloses the retention means 30 engaged to the frame 20. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have retention means to be engaging the frame as disclosed by Liu in the device disclosed by Earl as to allow the removal or installation of the heat sink independently of the component. Earl does not indicate the extrusion as the method of manufacturing of the heat sink and aluminum as the material. The aluminum is the commonly used and well known material for heat sinks because of its good thermal conductivity, therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use aluminum for the heat sink as disclosed by Earl. The shape of the heat sink as disclosed by Earl makes it possible to manufacture that heat sink by extrusion, and

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besides, the extrusion, as method does not provide structural difference of the claimed heat sink and the one disclosed by Earl, therefore it is obvious.

5. Claims 4-7, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Earl et al. in view of Shih.

Earl discloses the heat sink comprising a base 13, a plurality of fins perpendicularly extending from the first side of the base including the first fin and the last fin and the groove formed in the first and the last fin, the groove is engaging a retainer 40 to provide the contact with the heat generating component 30, the first fin and the last fin having a common section adjacent to the base and divergent section extending from elements 14 and 16, the groove is formed proximate an interface of the common section and the divergent section, the grooves are coplanar. Earl discloses the claimed invention as shown above, but claim 4 using different terminology to name the same elements. Earl discloses u-shaped cavity formed between adjacent fins of the number of intermediate fins and non-u-shaped cavity between the externally disposed fins and their neighboring fins (see Fig. 1 and Fig. 2). Earl discloses the claimed invention except having grooves disposed above the base portion and the extrusion as method of making (see rejection above). Shih discloses the elongated ridges 33, 33a of the heat sink 3 located above the base portion of the heat sink. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to dispose the elongated ridges above the base as disclosed by Shih in the structure disclosed by Earl. Shih also disclose the aluminum as the material for the heat sink.

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6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Earl et al. in view of Kin-shon.

Earl discloses the claimed invention except having the plurality of the intermediate fins extending approximately twice as externally positioned fins. Kin-shon discloses the heat sink the plurality of the intermediate fins extending approximately twice as externally positioned fins. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have fins extending as disclosed by Kin-shon in the heat sink disclosed by Earl for better heat dissipation.

7. Claims 12-18 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Earl et al. in view of Kin-shon.

Earl discloses the claimed invention, as shown above, except having the plurality of the intermediate fins extending approximately twice as externally positioned fins. Kin-shon discloses the heat sink the plurality of the intermediate fins extending approximately twice as externally positioned fins. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have fins extending as disclosed by Kin-shon in the heat sink disclosed by Earl for better heat dissipation and it must be noted that it would have been an obvious matter of design choice to make the fins, as well as other elements of the heat sink, of certain size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800 ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for



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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

**BORIS CHERVINSKY**  
**PRIMARY EXAMINER**

*Boris L. Chervinsky*  
7/5/5